

**DOCKET NO.: ALLE0016-100 DIV
(17510 DIV1)
Serial No. 10/675,020**

PATENT

REMARKS

Claims 16-21 and 36-43 are pending in this application.

As a overview, the claims are patentable over Yuzhakov et al. because:

- * the hard “polymers” of Yuzhakov et al. cannot seep into the skin to act as a penetration enhancer; and
- * a “delivery mechanism” of Yuzhakov et al. is different from a “penetration enhancer”
- * there is no motivation to combine Yuzhakov et al. and Cevc

The Claims Are Novel

Claims 16-21 and 39-44 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Pat. No. 6,565,532 to Yuzhakov et al. (hereinafter “the ‘532 patent”). Applicant respectfully disagrees, and assert that the ‘532 patent cannot anticipate claims 16-21, because the ‘532 patent does not teach all the elements in each of these claims. For example, the pending claims are directed to a transdermal patch comprising an *enhancing agent* that facilitates transdermal administration of the botulinum toxin. The enhancing agents of the present invention include, for example, methanol, ethanol, isopropanol, isobutanol, vesicle, transfersome and the like. See the specification at, for example, page 16, lines 13-27. Further, Examples 1 and 2 of the present specification also teach formulations comprising penetration enhancing agents that are effective to enhance the permeability of a patient’s skin.

The ‘532 patent, on the other hand, does not teach a transdermal patch comprising an enhancing agent.

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“polymer”

The Office Action sites to the term “polymer” on column 28 of the ‘532 patent as teaching an enhancing agent (Office Action at page 2). As asserted in the previous response, the referenced “polymer” on column 28, line 63, is not employed as an enhancing agent. In fact, the referenced “polymer” cannot be employed as an enhancing agent because the referenced “polymer” is in the form a harden, plastic, physical structure which is to be used in constructing a “close-loop system”. (Other materials that may be used in constructing the “close-loop system” include diamond, metals, ceramics. See column 28, lines 62-64). A harden, plastic, physical polymer structure cannot seep through a patient’s skin to make the skin more accessible to active materials, as a true penetration enhancer would be able to seep through skin to make the skin more accessible to active materials. Thus, the “polymers” of the ‘532 patent cannot be a skin penetration enhancer of the claimed invention.

“hydrogel or solgel matrix”

The Office Action alleges that the ‘532 patent teaches the use of polymers to enhance skin permeability because the ‘532 patent discloses the use of polymers as an “additional delivery mechanism” (the Office Action, page 3). Specifically, the Office Action alleges that the ‘532 patent teaches

that porous polymers such as hydrogel or solgel matrix can be impregnated with active material to provide additional delivery mechanism (column 6). Therefore, one of ordinary skill in the art could reasonably conclude[sic] that polymers are used in the invention of the prior art as enhancing agents to aid with the delivery of active materials.

(the Office Action, page 3). Respectfully, one of ordinary skill would not “conclude that polymers are used in the invention of the prior art as enhancing agents”.

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It is important to understand that a “delivery mechanism” is not the same as a “penetration enhancer”. That is, a “delivery mechanism” such as that of the ‘532 patent simply serves as a reservoir/storage for active material, wherein the active material leaks out from the porous polymer. On the other hand, a penetration enhancer interacts with the skin and causes it to be more accessible to active materials. The ‘532 does not teach that the hydrogel or solgel can interact with the skin to cause the skin to be more accessible to active materials. Thus, the ‘532 patent does not teach the use of a polymer as a penetration enhancer.

The Claims Are Not Obvious

Claims 16-21 and 36-44 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over the ‘532 patent in view of U.S. Patent No. 6,165,500 (hereinafter “the ‘500 patent”).

The Office Action has not established a prima facie case of obviousness because, for example, it has not identified a motivation to combine the ‘532 patent and the ‘500 patent to arrive at the present invention (which is a transdermal patch comprising a penetration enhancer). The ‘532 patent teaches a microneedle apparatus for delivering active material through a skin, using electric and gradient/concentration potentials. As discussed above, the ‘532 patent does not teach or suggest the use of a penetration enhancer to enhance the delivery of active material.

The Office Action alleges that the ‘500 patent teaches a penetration enhancer. For example, the ‘500 patent teaches a preparation of minuscule droplets of fluid, e.g., transfersome, ethanol, etc. which may facilitate the penetration of active material through skin. Even if the ‘500 patent teaches a penetration enhancer, one of ordinary skill would not be motivated to combine the use of the penetration enhancer with a microneedle patch, because neither reference teaches or suggest the combination of microneedle apparatus with a penetration enhancer.

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Since the Office Action has not provided a motivation to combine the '532 patent with the '500 patent, the Office Action has not established a prima facie case of obviousness.

Specificity of Claims 36-38 and 41-43

Lastly, claims 36-38 and 41-43 recite specific ratios and amount of water, ethanol, polyethylene glycol, transfersomes and buffer. None of the cited prior references disclose or teach the specific ratios and amount of these ingredients. Thus, these claims are specific, patentable inventions.

In view of the foregoing, Applicant submits that the pending claims are in condition for allowance, and an early Office Action to that effect is earnestly solicited.

Respectfully submitted,



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